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学術論文リスト

1. Awakawa, T., Fujioka, T., **Zhang, L.**, Hoshino, S., Hu, Z., Hashimoto, J., Kozone, I., Ikeda, H., Shin-ya, K., Liu, W., Abe, I. "Reprogramming of the antimycin NRPS-PKS assembly lines inspired by gene evolution." *Nature Commun.* 9, in press (2018)
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5. **Zhang, L.**, Mori, T., Zheng, Q., Awakawa, T., Yan, Y., Liu, W., Abe, I. "Rational control of polyketide extender units by structure-based engineering of a crotonyl-CoA carboxylase/reductase in antimycin biosynthesis." *Angew. Chem. Int. Ed.* 54, 13462-13465 (2015)
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8. **Zhang, L.**, Chen, J., Mori, T., Yan, Y., Liu, W., Abe, I. “Crystallization and preliminary X-ray diffraction analysis of AntE, a crotonyl-CoA carboxylase/reductase from *Streptomyces* sp. NRRL 2288.” *Acta Crystallogr., Sect. F: Struct. Biol. Cryst. Commun.* 70, 734–737 (2014)
9. Yan, Y., Chen, J., Zhang, L., Zheng, Q., Han, Y., **Zhang, H.**, Zhang, D., Awakawa, T., Abe, I., Liu, W. “Multiplexing of combinatorial chemistry in antimycin biosynthesis: Expansion of molecular diversity and utility.” *Angew. Chemie Int. Ed.* 52, 12308-12312 (2013)
10. Chen, D., **Zhang, L.**, Pang, B., Chen, J., Xu, Z., Abe, I., Liu, W. “FK506 maturation involves a cytochrome P450 protein-catalyzed four-electron C-9 oxidation in parallel with a C-31 O-methylation.” *J. Bacteriol.* 195, 1931–1939 (2013)
11. Yan, Y., **Zhang, L.**, Ito, T., Qu, X., Asakawa, Y., Awakawa, T., Abe, I. and Liu, W. “Biosynthetic pathway for high structural diversity of a common dilactone core in antimycin production.” *Org. Lett.* 14, 4142-4145 (2012)